

**REMARKS/ARGUMENTS**

Upon entry of the amendments and new claim, claims 2-25 will be pending in the above-identified application. Claims 2 and 3 have been amended to clarify the subject matter regarded as the invention. New claim 25 has been added. The amendments and new claim are supported throughout the specification including, for example, at Figure 3, and paragraphs 0027, and 0030-0034. As such, no new matter has been added.

Applicants gratefully acknowledge the March 23, 2006 telephone conference between the Examiner and Applicants' representative. Applicants' position regarding certain differences between the current invention and the cited references, which was discussed in the interview, is included in the below discussion.

**Rejections under 35 U.S.C. §112**

Claims 2-4 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, the Examiner has stated that in claims 2 and 3, while the preamble is directed to a method for fitting a set of upper and lower teeth in a masticatory system, the method steps in the body of the claims do not accomplish these steps. As such, it is stated in claims 2-4 are indefinite for this reason. Applicants point out that claims 2 and 3 have been amended to clarify the method steps of claims 2 and 3 to more clearly correspond to the preambles of the claims. Accordingly, Applicants respectfully request withdrawal of the rejections of claims 2-4 under 35 U.S.C. §112, second paragraph.

**Rejections under 35 U.S.C. §103**

Claims 2-5 and 8-19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Martz (U.S. Patent No. 4,793,803).

As amended, claim 2 recites a combination of steps for fitting a set of upper and lower teeth in a masticatory system of a patient, including modeling a set of upper and lower teeth in a

masticatory system of a patient in three or more predetermined positions prior to a stage of treatment; and generating a patient removable appliance for each of the three or more predetermined positions, said appliance having cavities and wherein the cavities of successive ones of the plurality appliances have different geometries shaped to receive and resiliently reposition teeth from one arrangement to a successive arrangement, wherein said stage of treatment comprises successively applying the appliances to the patient's teeth. As can be appreciated from the specification and drawings of the present application, modeling a plurality of appliances at a single stage of treatment (e.g., prior to applying the appliances to the patient's teeth), rather than requiring multiple examinations, casts, and setups of the patients teeth throughout the course of treatment can often be both cost effective and advantageous.

In contrast to the currently claimed invention, Martz teaches a single, individual appliance that is insertable in the patient's teeth in order to correct minor malocclusions. Production of the appliance of Martz requires steps of physically examining the patient and then producing, from a mold of the patient's teeth, a plaster cast and wax setup, from which the Martz appliance is derived. Following fabrication, the Martz appliance is administered to the patient for repositioning of the teeth.

Applicants respectfully submit, however, that nowhere does Martz teach or suggest modeling a set of upper and lower teeth in a masticatory system of a patient in three or more predetermined positions prior to a stage of treatment, wherein the stage of treatment comprises successively applying the appliances to the patient's teeth, as is required by the pending claims.

While the Examiner appears to acknowledge that Martz does not teach modeling more than one appliance prior to a stage of treatment, it is alleged that it would have been obvious to one of ordinary skill to modify the teachings of Martz and make multiple stages of Martz at the beginning in order to not make the patient return each time for another appliance. Applicants respectfully disagree.

First, Applicants respectfully submit that the Examiner's position wholly lacks support because the Examiner has failed to identify any suggestion or motivation, either in the cited reference or the knowledge generally available to those of ordinary skill, to modify the teachings of Martz so as to produce the claimed invention. Viewing the reference as a whole, Applicants

submit that Martz, at best, teaches following up an initial treatment period (i.e., fabrication and use of an appliance) with either modifications to the existing appliance, or repetition of previously recited patient examination and appliance fabrication steps in order to make a new appliance modeled from the patient's repositioned teeth. Nothing in Martz teaches or suggests modeling more than one appliance prior to a stage of treatment. Furthermore, nothing is in the record, other than the Applicants' own disclosure, that would teach or suggest modifying Martz in order to model more than one appliance prior to a stage of treatment.

Second, the teachings of Martz, in fact, teach away from both the proposed modification of Martz and the methods of the current claims. For example, Martz teaches that "as time goes on, movement of the teeth may be accomplished through multiple stages of the appliance by utilizing more than one wax setup." (Martz at col. 4, lines 12-15; emphasis added). Thus, rather than teaching modeling more than one appliance prior to a stage of treatment, Martz at best teaches making multiple appliances by multiply repeating stages (each stage including patient examination, fabrication of a single appliance, and treatment of the patient with the single appliance), using more than one wax set up, as time goes on.

As is well known by the Examiner, the Office bears the initial burden of factually establishing and supporting any assertion of prima facie obviousness, including motivation to modify the teachings of a cited reference. MPEP § 2142. In the present case, the Examiner has not pointed to any evidence in Martz, or knowledge of those skilled in the art, that would provide the requisite suggestion or motivation to modify the reference teachings of Martz as to produce the invention methods defined by the currently pending claims. In fact, Martz actually teaches away modeling more than one appliance prior to a stage of treatment.

Therefore, it is respectfully submitted that the rejections of claims 2-5 and 8-19 under 35 U.S.C. § 103(a) should be withdrawn for the reasons set forth above or, if the rejections are not withdrawn, that the Examiner provide some objective indicia, separate from the Applicants' own disclosure (e.g., hindsight reconstruction), to support the Examiner's position that one of ordinary skill would have had any motivation to modify the teachings of Martz and that such a modification would produce the claimed invention.

Claims 6 and 20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Martz (U.S. Patent No. 4,793,803) in view of Duret *et al.* (U.S. Patent No. 4,611,288).

It is alleged that Duret teaches using X-ray data to obtain dynamic occlusion, and that it would have been obvious to one of ordinary skill to modify Martz to include using X-ray data to model occlusion as shown by Duret in order to arrive at the invention as set forth in claims 6-20. Applicants respectfully disagree.

As set forth above, nowhere does Martz teach or suggest modeling a set of upper and lower teeth in a masticatory system of a patient in three or more predetermined positions prior to a stage of treatment, wherein the stage of treatment comprises successively applying the appliances to the patient's teeth, as is required by the pending claims. Duret fails to provide the teachings that are missing from Martz. In particular, Duret does not teach any appliances for repositioning teeth or modeling a set of upper and lower teeth in a masticatory system of a patient in three or more predetermined positions prior to a stage of treatment.

Therefore, even if the combination were made, the combination of Martz and Duret would fail to teach each and every element of the current claims 6 and 20. Accordingly, Applicants respectfully request that the rejections of claims 6 and 20 under 35 U.S.C. §103(a) be withdrawn.

Claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over Martz (U.S. Patent No. 4,793,803) in view of Andreiko *et al.* (U.S. Patent No. 5,683,243).

It is alleged that it would have been obvious to one of ordinary skill in the art to modify Martz to include using tomography data to model occlusion as shown by Andreiko. As set forth above, however, Martz fails to teach or suggest modeling a set of upper and lower teeth in a masticatory system of a patient in three or more predetermined positions prior to a stage of treatment, wherein the stage of treatment comprises successively applying the appliances to the patient's teeth, as is required by the pending claims. Andreiko fails to provide the teachings that are missing from Martz. Nowhere does Andreiko teach a removable appliance or modeling a set of upper and lower teeth in a masticatory system of a patient in three or more predetermined positions prior to a stage of treatment.

Accordingly, withdrawal of the rejection of claim 7 under 35 U.S.C. §103(a) is respectfully requested.

Double Patenting Rejections

Claims 21-24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 37-40 of U.S. Patent No. 6,450,807 in view of Martz (U.S. Patent No. 4,793,803).

As previously made of record, Applicants acknowledge the double patenting rejection and submit that upon final resolution of allowable claims, a terminal disclaimer will be timely filed if necessary. However, Applicants traverse the rejection and submit, for the reasons set forth above, that Martz does not teach or suggest the methods of the currently pending claims. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 21-24 under obviousness-type double patenting.

Appl. No. 10/788,510  
Amdt. dated March 29, 2006  
Reply to Office Action of December 29, 2005

PATENT

CONCLUSION


In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 206-467-9600.

Respectfully submitted,

Date: \_\_\_\_\_

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